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(71) Applicant (for all designated States except US):
SIEMENS AKTIENGESELLSCHAFT [—/DE];
Wittlesbacherplatz 2, 80333 München (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KROTH, Norbert**

[DE/DE]; Carl-von-Ossietzky Str. 12, 14471 Potsdam (DE). **RANDALL, Dave** [GB/GB]; 8 The Ticket, Hampshire, Romsey, SO51 5SZ (GB). **REVEL, Agnes** [FR/GB]; 6 Denbigh Close, Totton SO40 7QD (GB). **SCHIEDEN-HARN, Jörg** [DE/DE]; An der Havelspitze 23, 13587 Berlin (DE).

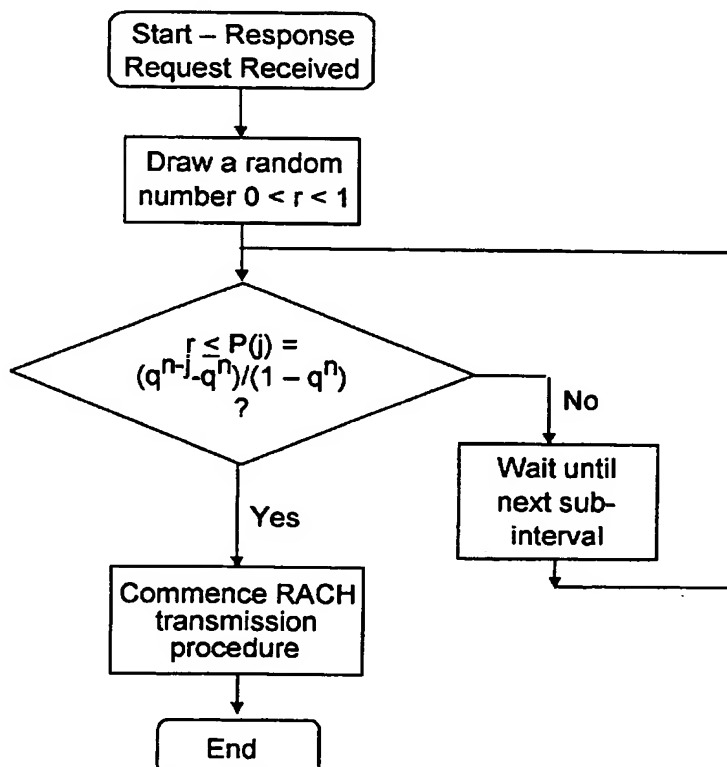
(74) Common Representative: **SIEMENS AKTIENGESELLSCHAFT**; Postfach 22 16 34, 80506 München (DE).

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(54) Title: METHOD FOR UPLINK ACCESS TRANSMISSIONS IN A RADIO COMMUNICATION SYSTEM



(57) Abstract: According to a first aspect of the invention, there is provided a method for controlling uplink access transmissions in a radio communication system, wherein a user equipment determines a delay time for transmitting a signal on an uplink access channel, wherein the delay time is randomly determined based upon a probability distribution that increases in density with increasing delay. According to a second aspect of the invention, there is provided a method for controlling uplink access transmissions in a radio communication system, wherein from a base station of the radio communication system, time variable information is signalled in downlink to user equipments located in an area covered by the base station, wherein the information is used to determine delay times for transmitting signals on an uplink (UL) access channel (RACH) and wherein the information varies based upon a probability distribution which increases in density with increasing time.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 00/13426 A (SAMSUNG ELECTRONICS CO LTD) 9 March 2000 (2000-03-09) page 2, line 5 - line 7 page 4, line 1 - page 5, line 20 page 9, line 9 - line 22 page 11, line 5 - page 13, line 4 page 17, line 1 - line 6 figure 12	1-16
A	EP 0 994 603 A (LUCENT TECHNOLOGIES INC) 19 April 2000 (2000-04-19) paragraphs '0001!', '0013!', '0015! - '0020! paragraphs '0021!', '0022!', '0036!', '0037!', '0040! ----- -/--	1-16

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Alonso Maleta, J

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>"Universal Mobile Telecommunications System (UMTS); Multimedia Broadcast/Multicast Service (MBMS); Stage 1 (3GPP TS 22.146 version 5.2.0 Release 5); ETSI TS 122 146"</p> <p>ETSI STANDARDS, EUROPEAN TELECOMMUNICATIONS STANDARDS INSTITUTE, SOPHIA-ANTIPO, FR,</p> <p>vol. 3-SA1, no. V520,</p> <p>March 2002 (2002-03), XP014007342</p> <p>ISSN: 0000-0001</p> <p>page 6, line 35 - page 8, line 9</p> <p>page 9, line 7 - line 8</p>	1-16

INTERNATIONAL SEARCH REPORT

International Application No

P 03/12472

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0013426	A	09-03-2000	KR 2000015422 A	15-03-2000
			AU 732697 B2	26-04-2001
			AU 5530499 A	21-03-2000
			BR 9906771 A	05-12-2000
			CA 2307341 A1	09-03-2000
			CN 1111323 B	11-06-2003
			EP 1055296 A2	29-11-2000
			JP 2002524938 T	06-08-2002
			WO 0013426 A2	09-03-2000
			RU 2216103 C2	10-11-2003
			US 6636496 B1	21-10-2003
EP 0994603	A	19-04-2000	US 6674765 B1	06-01-2004
			CA 2281454 A1	14-04-2000
			EP 0994603 A2	19-04-2000
			JP 3521125 B2	19-04-2004
			JP 2000188784 A	04-07-2000
			KR 2000034991 A	26-06-2000



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